REMARKS

Reconsideration of this application, as amended, is respectfully requested.

THE CLAIMS

New independent claim 16 has been prepared based on the subject matter of (now canceled) claims 1, 5 and 7.

New independent claim 17 has been prepared based on the subject matter of (now canceled) claims 8, 12 and 14.

And new independent computer program claim 18 has been prepared to correspond to new claims 16 and 17.

No new matter has been added, and it is respectfully requested that new claims 16-18 be approved and entered.

THE PRIOR ART REJECTION

Claims 1-4, 8, 9, 11 and 15 were rejected under 35 USC 102 as being anticipated by USP 6,760,840 ("Shimbo et al"); and claims 3, 5-7, 10 and 12-14 were rejected under 35 USC 103 as being obvious in view of Shimbo et al. These rejections, however, are respectfully traversed with respect to new claims 16-18 as set forth.

As recognized by the Examiner, Shimbo et al discloses dividing a file into blocks, and ciphering each of the blocks in

accordance with a prescribed cipher key. And as acknowledged by the Examiner on page 4 of the Office Action, Shimbo et al does not disclose further dividing the blocks into sub-blocks. The Examiner asserts, however, that it would have been obvious to divide the blocks into sub-blocks, since Shimbo et al discloses dividing files into blocks.

It is respectfully submitted that the present invention as recited in new independent claims 16-18 does not merely divide blocks into sub-blocks. Rather, according to the present invention as recited in new independent claims 16-18, both the blocks and the sub-blocks making up the blocks are assigned ciphering attributes, the data of each of the sub-blocks is ciphered in accordance with the set sub ciphering attribute, and the at least one block that includes the ciphered data of the sub-blocks is ciphered in accordance with the set ciphering attribute corresponding to the block.

That is, according to the present invention as recited in new independent claims 16-18, the two dimensional plaintext is divided into blocks (step S40 in Fig. 8). A ciphering attribute is set to each block by, for example, a user (step S41). Each block is divided to generate sub-blocks (step S42), and a sub ciphering attribute is set to each sub-block by, for example, the user (step S43). Each sub-block is then ciphered in accordance

with the sub ciphering attribute (step S44). And the ciphered sub-blocks are collected to form the original block units, which are then ciphered based on the ciphering attribute corresponding to the block (step S43). (See also the disclosure in the specification at page 15, lines 12 to 23).

With this structure, the sub-blocks are first ciphered, and then the blocks made up of the ciphered sub-blocks are ciphered.

Thus, according to the claimed present invention, the file is ciphered hierarchically to achieve attribute hierarchy, which allows effective security management. For example, in a personnel management database, the ciphering key can be set in such a manner that a clerk of the personnel department can search employee names, addresses and telephone numbers, but only management staff of the personnel department can search incomes and private information. (See the disclosure in the specification at page 11, line 20 to page 12, line 2.)

It is respectfully submitted that even if it were obvious in view of Shimbo et al to divide the blocks further, Shimbo et al still does not disclose, teach or suggest that both the blocks and the sub-blocks making up the blocks are assigned ciphering attributes (sub ciphering attributes), and that the sub-blocks are first ciphered based on the corresponding ciphering attributes of the sub-blocks, and that then the blocks made up of

the ciphered sub-blocks are ciphered based on the corresponding ciphering attributes of the blocks, in the manner of the claimed present invention as recited in new independent claims 16-18.

In view of the foregoing, it is respectfully submitted that the present invention as recited new independent claims 16-18 clearly patentably distinguishes over Shimbo et al, under 35 USC 102 and 35 USC 103.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned for prompt action.

Respectfully submitted,

/Douglas Holtz/

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